Transitionen von der Erstausbildung ins Erwerbsleben
Transitions de l'Ecole à l'Emploi
Transitions from Education to Employment

POST-COMPULSORY EDUCATION PATHWAYS IN SWITZERLAND: THE FIRST SEVEN YEARS

Results of the Swiss youth panel survey TREE, update 2010

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CONTENTS

INTRODUCTION

This update of results gives an overview of educational pathways in Switzerland over the span of the first seven years after leaving compulsory education. The analyses are based on data obtained in the first seven panel waves of the TREE (Transitions from Education to Employment) longitudinal youth cohort study.

The presentation is confined to a brief outline of results. Interested readers may consult the numerous in-depth analyses that have been published in recent years (for more detailed findings see references, p. 17). Many of them are available for download at the project website (www.tree.unibas.ch). A selection of the most important contributions has been collected in the anthology edited by Bergman et al. (2011).

The results presented in this overview continues where the synopsis by Bertschy, Böni and Meyer (2007) left off – at that time, the data of the seventh TREE panel wave had not yet been available for analysis. The present update focuses on the dynamics of educational pathways as reflected in the graphs on page 8 and 13.

In this overview, the employment situation of the TREE cohort will not be of primary concern. This aspect was addressed in more detail in the last results update by Bertschy, Böni and Meyer in 2007. In the meantime, little change has been observed in this respect. Readers interested in the employment situation of the cohort may therefore consult the still current synopsis by Bertschy, Böni and Meyer (2007).

A thorough update on the education and employment pathways is expected for 2012. By then, the data from the eighth TREE panel wave in 2010 will be available, thus extending the period of observation from seven to ten years.

TREE PROJECT PROFILE AND METHODICAL DESIGN

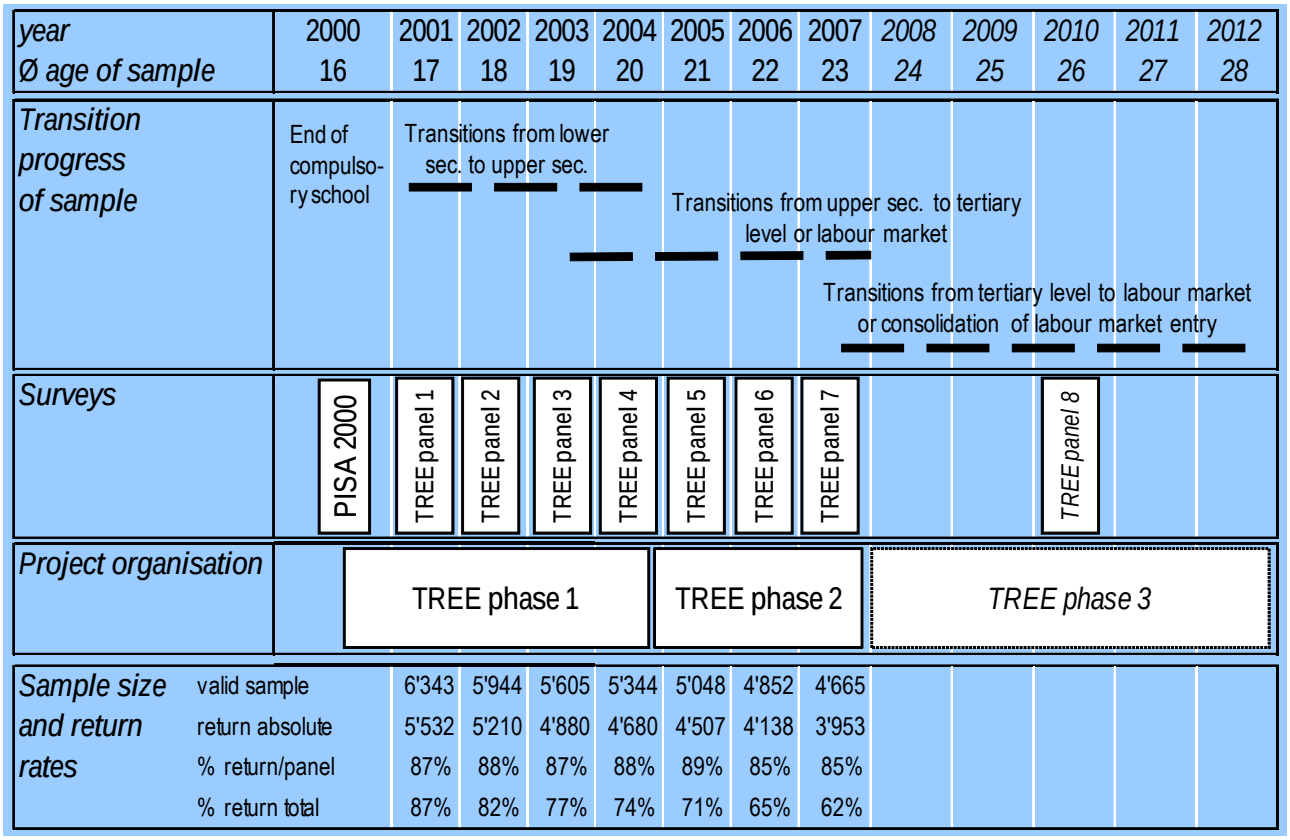
TREE is the first longitudinal study at the national level in Switzerland to address the transition of young people from school to adulthood. The survey focuses on post-compulsory education and employment pathways. The TREE sample consists of approximately 6,000 young people who participated in the PISA survey (Programme for International Student Assessment) in 2000 and reached the end of compulsory school in the same year. It is a representative sample for Switzerland as a whole, the Swiss language regions and for selected cantons (Berne, Geneva, Ticino, St. Gallen).

In the first phase of the project (three follow-up surveys until 2003), TREE tracked the respondents' education and employment pathways at the interface of compulsory school and upper secondary education. During this first phase, the main focus was on reasons for and typical trajectories and consequences of irregular or critical educational careers, with particular attention paid to early dropout (young people who fail to graduate from a post-compulsory education or training programme).

In the second phase of TREE (four more annual follow-up surveys between 2004 and 2007), the survey centred on what we refer to as the second threshold, that is, the transition from upper secondary level education (VET, grammar school [*Gymnasium*], middle school [*Diplommittelschule*] etc.) to working life or tertiary level education. The ongoing third phase (2008-2012) involves another panel survey in 2010, ten years after the cohort study was launched.

The Swiss National Science Foundation and the University of Basel have been the major sources providing support and funding for the TREE project. Up until 2007, the departments of education of the cantons Berne, Ticino and Geneva, the Federal Office for Professional Education and Technology (OPET) and the Swiss Federal Statistical Office (FSO) also participated in and/or co-funded the project.

FIGURE 1: TREE SURVEY DESIGN



Seven TREE panel surveys have been conducted so far. Another, eighth survey was on the verge of completion at the editorial deadline of this brochure. The survey method used is a combination of standardised questionnaires in written and telephone form. The results reported in this publication are based on data either from the first seven TREE survey panels (2001-2007) or from the seventh wave conducted in 2007. At that point, roughly seven years had passed since the respondents left compulsory school. The PISA/TREE sample represents the approximately 80,000 young people in Switzerland who finished compulsory education in 2000. The data have been weighted to compensate for biases due to sample attrition, a common effect in any longitudinal research.

Hence, TREE results are not exact values but statistically inferred estimates for the described sample, which can be assumed to be representative for the population under study within certain margins of error. All calculations were performed on appropriately weighted samples. Parameter estimates and confidence interval calculations were all performed using suitable methods to adequately model the complex structure of the PISA/TREE sample.[1] The estimates in this publication as a rule are expressed in integer percentages or are rounded to thousands in case of absolute population estimates. This publication generally comments only on results and differences that are statistically significant irrespective of estimation and rounding errors. Results based on an unweighted number of cases less than 30 persons are typically not reported. Upon request, the authors will gladly provide information on estimation errors and unweighted sample bases.

[1] STATA: survey set for complex samples.

EDUCATION AND EMPLOYMENT PATHWAYS: SYNOPSIS 2000-2007

What patterns can we identify in the post-compulsory education and employment pathways of the PISA 2000/TREE cohort for the period 2000 to 2007? Figure 2 provides a visual summary of some of the answers to this question structured along the dimensions of time as well as education, employment and certification status.

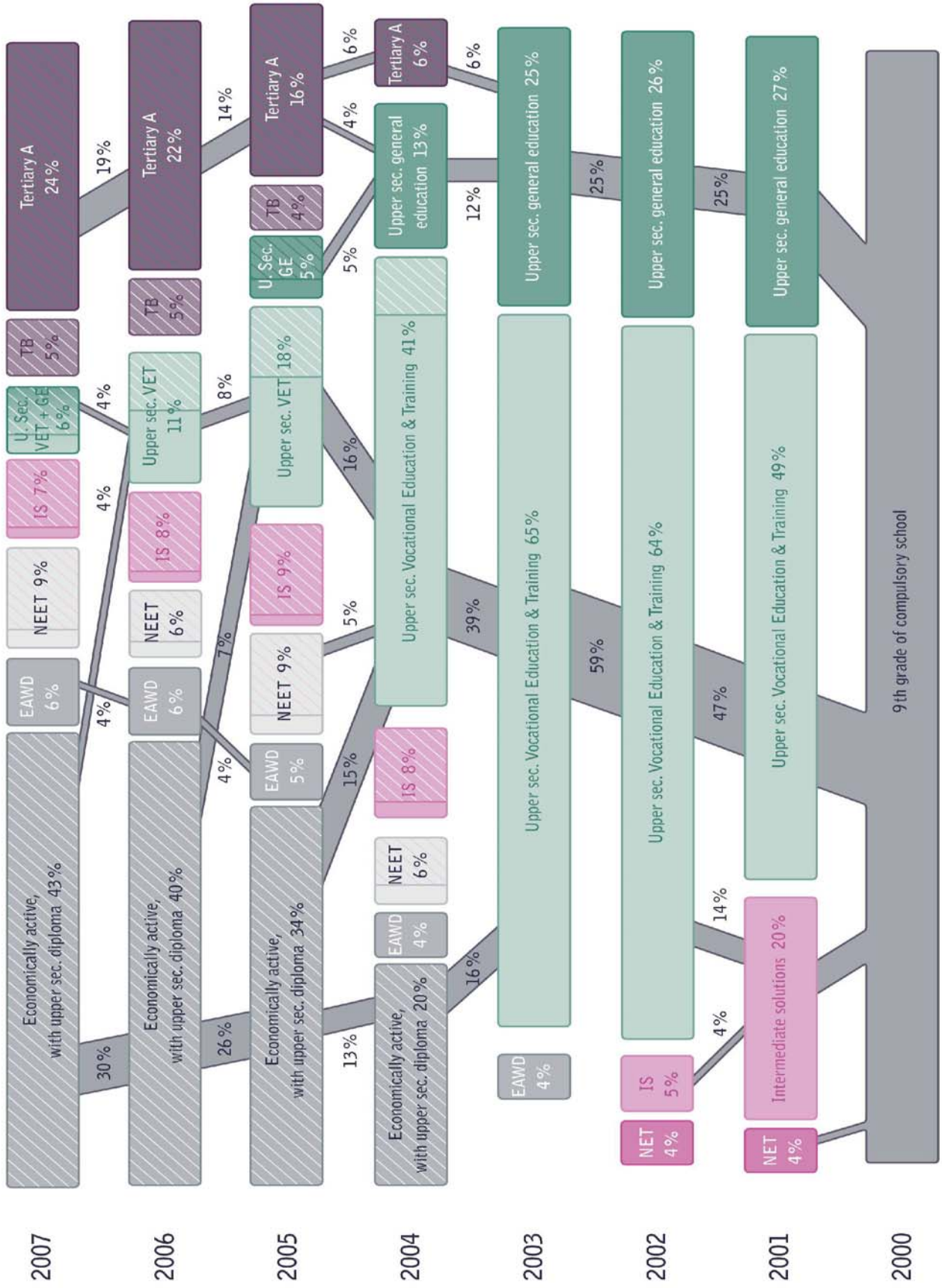
The graph illustrates that vocational education and training (VET), by far, still is the most frequently chosen path of post-compulsory education in Switzerland: In 2002 and 2003, it reaches a peak when nearly two-thirds of the cohort attend VET. By contrast, only about a quarter of the school leavers are enrolled in post-compulsory programmes of general education at the time.

The tree graph below once again illustrates how many youth are denied direct access to (certifying) upper secondary education. In 2001, one year after leaving school, roughly one fifth of the cohort participates in some sort of interim solution, such as an additional tenth year of schooling, various intermediate or preparatory training programmes, (foreign) language training programmes, internships etc. Four percent of all school leavers are neither in education nor employment at the time. Since entering into VET is the primary interest of both groups, it is safe to say that only two in three youth striving to enter VET are actually given a chance to directly do so.

From 2004 onwards, the branches on the left side of the tree graph document the transition from upper secondary education to employment whereas the right side depicts the move to tertiary education. The following findings observed in the top half of the tree graph are noteworthy:

1. While the branch representing general education at the upper secondary level from 2004 on diminishes rapidly and sharply or gives way to tertiary education, the basic VET branch (at the centre of the graph) is much slower to develop. On the one hand, this owes to the delays mentioned above, particularly in entering VET. On the other hand, first exploratory micro-level pathway analyses suggest that a considerable portion of the cohort has experienced some sort of discontinuity even during basic VET (a switch from one programme to another, interruptions, need to repeat a year etc.). This is reflected in the fact that in 2006, six years after leaving compulsory schooling, one in ten of the cohort still attends basic VET.
2. The transition from basic VET to employment (top left-hand side of the graph) takes place gradually over several years. Three years after the end of compulsory education only about a sixth of the cohort has entered the labour market (16%). A year later, after four years, a group of about the same size makes the transition (15%). By 2007, a cumulated 43 percent of the cohort has completed basic VET and found a job. At this point, another six percent are employed without having completed post-compulsory education. Thus, seven years after leaving compulsory school, at an average age of 23, half of the cohort has completed the transition from education to employment – either temporarily or permanently.

FIGURE 2: EDUCATION AND EMPLOYMENT PATHWAYS, 2000-2007



POSTCOMPULSORY EDUCATION AND EMPLOYMENT PATHWAYS 2000–2007

NET = Not in education or training
IS = Intermediate solutions
EAWD = Economically active without upper sec. diploma
NEET = Neither economically active nor in education or training
VET = Vocational education and training
GE = General education
Tertiary A = Universities and Universities of Applied Sciences
TB = Tertiary B = other postsecondary education and training
upper sec. certificate obtained

The sum of the horizontal bars can differ from 100% due to rounding errors and omission of groups smaller than 4 cohort percent.

The vertical bars, symbolising the tree's branches, represent the major pathways from one year of observation to the next. They are (also) proportional to the percentages of the cohort to be found on that pathway, i.e. the thicker the branch, the higher the part of the cohort concerned. Pathways representing groups of less than 4 cohort percent have not been visualised in order to keep the graph readable.

3. As far as the transitions to tertiary level education are concerned (top right-hand side of the graph), only six percent of the cohort takes up tertiary programmes extending over several years (A-level tracks, which comprise university programmes and those of the universities of applied sciences) in the period between 2003 and 2004, which is the earliest possible point in time to do so after graduating from the upper secondary level. A year later, another eight percent also moves on to the tertiary level. At this point in time, four percent of the cohort is enrolled in so-called B-level tertiary tracks, for instance, in technical colleges or master craftsmen's training programmes. By 2007, the cumulated numbers add up to one quarter of the cohort being enrolled in A-level tertiary education and five percent in B-level programmes. In historical perspective, these rates are evidence of an impressive increase in tertiary level enrolment in Switzerland. Yet, in international comparison, Switzerland still has one of the lowest rates of tertiary education among all post-industrial economies.[2]

4. From 2004 on, we see a substantial number of young adults (14-18%) whose situation is still up in the air und who are caught in between the major paths of employment and tertiary education. They either participate in some sort of interim solution (internships, foreign language training, etc.) or have completely dropped out of any type of education or employment – be it temporarily or permanently. The composition of this group shows great diversity. The young mother who performs family work at home full-time falls in this category just as the future student taking a gap year after graduation before moving on to tertiary education. A look at the tree graph reveals two aspects that form the "common denominator" among this group: On the one hand, the large majority has successfully completed upper secondary education, for instance, a VET or an academic programme (*Matura*). On the other hand, there is a very high degree of fluctuation over time: The absence of vertical "branches" indicates that the majority of that group remains in an intermediary situation of this kind only for a limited period of time.

   There is much more reason for concern regarding the "branch" between basic education in 2004 and the NEET[3] group in 2005. As much as five percent of the cohort – which equals more than one in five of those leaving basic VET in 2004 – is neither in employment nor education in 2005. It seems safe to

[2] See OECD (2008): Education at a Glance. Paris: OECD, p. 69.

[3] NEET is a common acronym in transition research for "neither in employment nor in education or training".

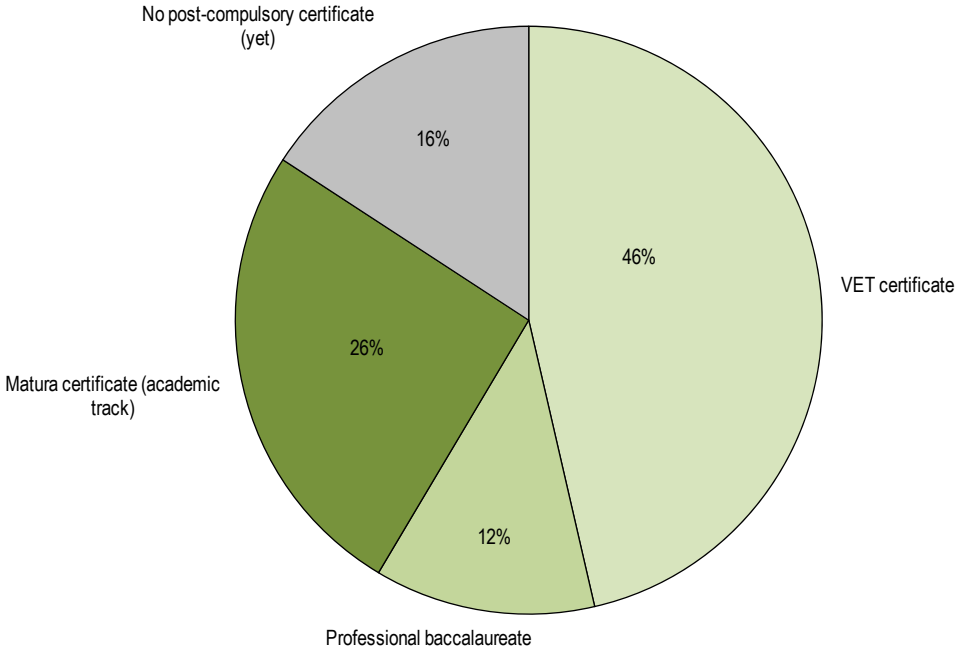
say that this situation is hardly a matter of individual choice but reflects the difficulties of the labour market in absorbing young job seekers, thus denying them the opportunity of direct entry.

In sum, the graphical illustration of the post-compulsory education and employment pathways indicates that a substantial part of the cohort being tracked has experienced discontinuity in the course of their education and employment careers (also see the section *Discontinuous Pathways*, pp. 12 ff.). At the point of transition that we have called "the first threshold" (transition from lower to upper secondary education), it strikes the eye that a significant proportion of youth (approx. one quarter) makes the step to upper secondary education leading to certification only after delays of one to two years (and some not at all). Such discontinuity at the point of entry in combination with the discontinuities experienced in the course of upper secondary education result in a fairly strong fragmentation of transition processes at the second threshold (from upper secondary level to the labour market or to tertiary education). A substantial minority of the cohort is up in the air and caught in an intermediate situation of oscillating between the main strands of employment and tertiary education.

Certification

Seven years after leaving compulsory schooling, about five in six school leavers have graduated from upper secondary level education (84%). By 2007, approximately 16 percent, that is 13,000 persons in absolute numbers, have failed to successfully complete VET or acquire an upper secondary certificate of general education. Roughly 2,000 (two percent of the cohort) still attend some form of upper secondary education in 2007. If we assume that the latter group will eventually graduate, we can extrapolate a global upper secondary completion rate of about 86 percent. Of course, we cannot rule out that persons who have dropped out of the education system without graduating might return and complete upper secondary education at a later point in time. Existing research on catch-up qualification measures (*Nachholbildung*), however, shows that very few adults actually make use of such opportunities at a later age.[4]

FIGURE 2: UPPER SECONDARY COMPLETION 7 YEARS AFTER LEAVING COMPULSORY SCHOOL



The estimated completion rate based on the TREE data is somewhat lower than the Swiss Federal Statistical Office's estimate based on certification records (approx. 90%)[5]. Since both values are estimates involving some margin of error, it seems safe to speak of a fairly good agreement between the two approximations.

Multi-variate analyses show that a combination of factors relating to performance, social background and previous education career[6] have an influence on whether a person acquires a post-compulsory certificate or not (for details see p. 14). For the VET segment of upper secondary education (i.e., excluding the advanced tracks of general education), Stalder et al. (2008) have demonstrated early on that migration background is another factor increasing the risk of not completing post-compulsory education.

4 Schräder-Naef, R. & Jörg-Fromm, R. (2005). Eine zweite Chance für Ungelernte? Auswirkungen des nachgeholten Lehrabschlusses. Zurich/Chur: Verlag Rüegger.

5 http://www.bfs.admin.ch/bfs/portal/de/index/themen/15/02/key/ind5.indicator.51421.html?open=1#1, accessed on Sept. 13, 2010.

6 While statistically controlling for all other factors.

Discontinuous Pathways

Figure 4 directs attention to continuity or discontinuity in the post-compulsory education careers tracked by TREE. In essence, the illustration visualises three types of (dis-)continuities:

1) *Discontinuity at the point of entry:* This type of discontinuity draws a distinction between persons who immediately enter certifying upper secondary education programmes after leaving compulsory schooling and those who do so after a delay (e.g., after completing an additional tenth year of schooling) or not at all. The risks associated with this type of discontinuity are subject to controversy in the research literature.[7]

2a) *Discontinuity in the course of upper secondary education:* Discontinuity of this type refers to deviations from the regular course of upper secondary education, for instance, repeating some segment of a programme or switching from one programme to another.

2b) *Dropout/non-completion*: Leaving an upper secondary programme without acquiring a certificate.

To start with, the illustration shows that only a good half of the cohort under study makes its way through the upper secondary level in a continuous process (right-hand side of the "tree"): About one third enters directly into a three-year upper secondary programme and completes it within the regular time frame. Nearly another third graduates within four years.

A look at the left-hand side of the tree graph, where the discontinuous paths are found, reveals that while approximately one quarter of the cohort under study succeeds in entering directly into the upper secondary level, almost as many (about 22%) experience discontinuity.[8] The risk of dropout is considerable in both groups: The number of youth leaving the education system without a post-compulsory certificate amounts to seven percent of the cohort for each of the two groups. This adds up to nearly one third of the young people affected by discontinuous pathways.

The results presented in the graph further show that youth subject to discontinuity in the course of upper secondary education are less likely to move on to tertiary education. It must, however, be noted that educational discontinuity (especially of the at point of entry kind), for the most part, affects VET pathways. They are generally much less likely to lead to tertiary level education than the tracks of general education to begin with.

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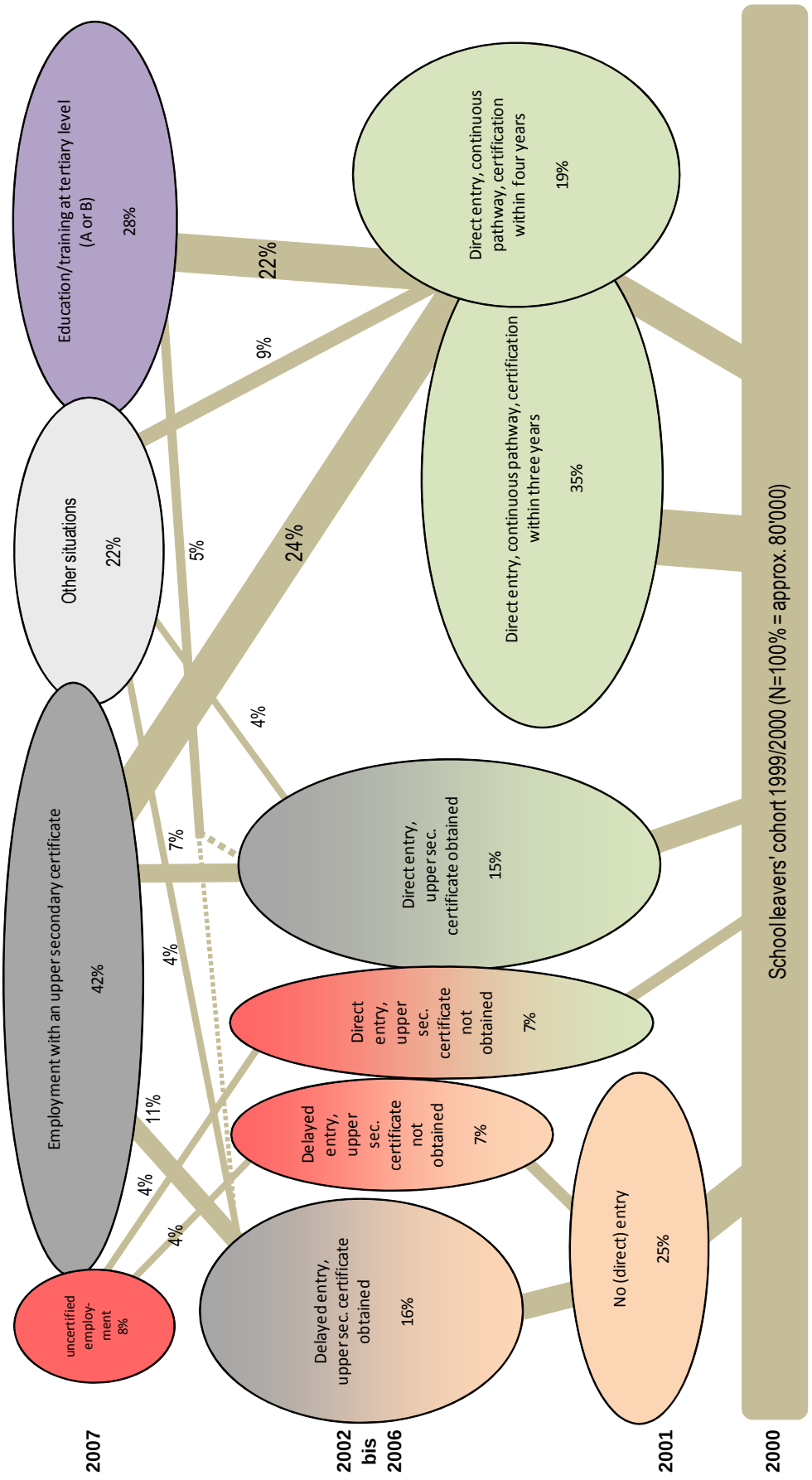
[7] Stefan Sacchi, Sandra Hupka-Brunner, Barbara E. Stalder, Markus Gangl (2011): Die Bedeutung von sozialer Herkunft und Migrationshintergrund für den Übertritt in anerkannte nachobligatorische Ausbildungen in der Schweiz. In Bergman, M., Hupka-Brunner, S., Keller, A., Meyer, T. & Stalder, B. E. (2011). Youth Transitions in Switzerland: Results from the TREE Panel Study. Zurich: Seismo, p. 120-156.

[8] A (small) proportion of the cohort surveyed is subject to discontinuity both at the point of entry *and* in the course of proceeding through upper secondary education. Due to limited accuracy of the statistical estimates and to preserve the clarity of the illustration, this group is not separately represented but is included in the category "discontinuity at point of entry".

FIGURE 4: EDUCATION AND EMPLOYMENT PATHWAYS BY TYPE OF PATH AND CERTIFICATION, 2000-2007



In a further step, a multivariate analysis[9] was performed to check whether the characteristics of the education pathways presented above interact with other factors in order to determine the likelihood of achieving a specific upper secondary certificate. The following picture emerged:

First, calculations aimed at identifying factors affecting whether a person fails to complete post-compulsory education instead of acquiring a VET certificate. Looking at performance measures, we found that good grades in the language of instruction and medium to high PISA scores in reading literacy[10] reduce the risk of being without an upper secondary certificate seven years after leaving compulsory schooling.[11] By contrast, low level of parental education and not being born in Switzerland turn out to be risk factors. In line with similar studies[12], our analyses confirm that educational discontinuity is a risk factor *in its own right*, irrespective of whether at the point of entry or in the further course of education.

Contrary to expectations, we observed that former students of the 'basic requirements' track of lower secondary education (*Realschule*) show a reduced risk of failing to complete upper secondary education compared to those that attended advanced tracks of lower secondary education (*Sekundarschule* and *Progymnasium*). Perhaps lower secondary level students from 'basic' requirements' tracks are more likely to choose VET programmes with reduced requirements, thus avoiding the risk of failing to meet advanced academic demands in the occupational field of choice.

Analysis of the likelihood of acquiring an advanced upper secondary certificate (*Matura* or professional baccalaureate *[Berufsmatur]*) instead of a basic VET certificate shows that individual achievement indeed matters: Youth with high PISA scores and above average grades in the language of instruction and mathematics are more likely to obtain an advanced-level certificate than a Federal VET Certificate. It comes at no surprise that the same holds true for students who attended advanced-level tracks of lower secondary education (*Sekundarschule*, *Progymnasium*). Yet, other factors not related to achievement also play an important role. Youth exhibiting similar levels of achievement from a well-to-do social background and from Latin-speaking Switzerland have greater chances of graduating from one of the advanced tracks of upper secondary education. Educational discontinuity in the post-compulsory phase, in contrast, has an adverse effect in this respect.

Finally, our analyses of *Matura* and professional baccalaureate certificates bring a pronounced gender effect to the fore: Whereas young women, while controlling for other factors, have a significantly higher likelihood of acquiring a *Matura* certificate, their chances of obtaining a professional baccalaureate are substantially lower by the same token. The opportunity structure for men is exactly the opposite.

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9 Multinomial logistic regression analysis (Backhaus, K., Erikson, B., Plinke, W. & Weiber, R. (2000). Multivariate Analysemethoden. Berlin: Springer).

10 As a opposed to other concepts of reading proficiency that, for instance, emphasize the technical aspects of reading (alphabetisation), the PISA study employs a broad and demanding conception of reading literacy that focuses on text understanding, the ability to assess a text, extract information, and make use of that information.

11 All of our findings are based on methods statistically controlling for all other factors under consideration.

12 Stefan Sacchi, Sandra Hupka-Brunner, Barbara E. Stalder & Markus Gangl (2011): Die Bedeutung von sozialer Herkunft und Migrationshintergrund für den Übertritt in anerkannte nachobligatorische Ausbildungen in der Schweiz. In Bergman, M., Hupka-Brunner, S., Keller, A., Meyer, T. & Stalder, B. E. (2011). Youth Transitions in Switzerland: Results from the TREE Panel Study. Zurich: Seismo, p. 120-156.

CONCLUSION AND PROSPECTS

The findings show that at an average age of 23 the transition from education to adulthood and working life is far from completed for many young adults; rather, they are right in the middle of the process. This being the case, the results presented here are also of preliminary nature.

We can expect the data obtained in the eighth TREE panel survey in 2010 to yield new insights into the progress of the cohort's transition. It will extend the period of observation from seven to ten years since the cohort left compulsory education. The longer observation period allows an even more profound and conclusive analysis of job careers, for example, with regard to the question of how the employment situation of young adults is consolidated once initial labour market entry has been accomplished and how stable the integration into the formal labour market turns out to be in the long run.

By the end of 2011, we expect detailed, month-by-month data on education and employment pathways and other biographical episodes to be available for analysis. Interested researchers will be in an even better position to perform more fine-grained and elaborate analyses of the transition processes tracked by the TREE survey than today.

SHORT GLOSSARY

Certificate, certification: see → graduation

Graduation (rate); certificate, certification: This publication is primarily concerned with graduates of upper secondary level education and training programmes extending over three or more years (Federal VET certificate, academic or vocational baccalaureate or equivalent degrees). Preparatory and other non-standardised short-term training programmes at the upper secondary level are not considered.

Latin parts or regions in Switzerland: French and Italian-speaking Switzerland.

Non-completion/dropout: Absence of an upper secondary diploma/certificate.

PISA: Programme for International Student Assessment

PISA/TREE cohort: The PISA/TREE cohort consists of a panel of 6,000 youth, representative for Switzerland and its language regions, who participated in the first PISA survey and ended compulsory education in 2000 and since then have participated in TREE's regular yearly panel surveys.

Tertiary level: The tertiary level (ISCED[13] level >3) refers to post-secondary level education, including the Universities of applied sciences as well as the technical colleges and other post-secondary programmes that require an upper secondary level certificate.

Threshold: A term used to indicate a critical point of transition in German-speaking life course transition research. The transition from compulsory school to post-compulsory education is generally referred to as the *first threshold*, whereas the transition from upper secondary or tertiary level education to the labour market is called the *second threshold*.

Transition: In the TREE context, transition refers to the passage from lower/upper secondary education to employment or from youth to adulthood.

TREE: Acronym for the Swiss youth panel survey "Transitions from Education to Employment".

Unemployment: In this survey, respondents that claim to be unemployed are considered to be unemployed irrespective of whether they are officially registered as such with an employment office. "Registered unemployment" is additionally recorded in its own right.

Upper secondary level: In Switzerland, the upper secondary level (ISCED level 3) of education follows the lower secondary level, which is the last stage in compulsory education. It includes → VET programmes and general education programmes. Today, an upper secondary level certificate is regarded to be a minimum requirement for successful entry into the labour market with good prospects for stable employment.

VET: Vocational education and training

[13] International Standard Classification of Education

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